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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
David W. CANNELL *et al.*) Group Art Unit: 1618
Application No.: 09/820,858)
Filed: March 30, 2001) Examiner: B. Fubara
For: HEAT ACTIVATED DURABLE)
CONDITIONING COMPOSITIONS) Confirmation No. 3869
COMPRISING AN AMINATED C₃)
TO C₅ SACCHARIDE UNIT AND)
METHODS FOR USING THE)
SAME)

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Sir:

APPEAL BRIEF UNDER BOARD RULE § 41.37

In support of the Notice of Appeal filed February 28, 2007, and further to Board Rule 41.37, Appellants present this Appeal Brief. A check for the fee of \$500.00 required under 37 C.F.R. § 1.17(c) is enclosed. This Brief is due Monday, April 30, 2007, and is timely filed.

This Appeal responds to the November 28, 2006, final rejection of claims 1-9, 13-20, 24-26, 29, 35, and 37-48, which are set forth in the attached Appendix. A Terminal Disclaimer and the required fee accompanies this Brief. If any additional fees are required or if the enclosed payment is insufficient, Appellants request that the required fees be charged to Deposit Account No. 06-0916.

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I. REAL PARTY IN INTEREST

L'ORÉAL S.A. is the assignee of record, as evidenced by the assignment document recorded in the U.S. Patent and Trademark Office on August 7, 2001, at Reel 012051 and Frame 0180.

II. RELATED APPEALS AND INTERFERENCES

There are currently no other appeals or interferences, of which Appellants, Appellants' legal representative, or Assignee are aware, that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-30, 32, and 34-150 are pending in this application. Claims 31, 33, 151, and 152 were canceled previously. Claims 1-9, 13-20, 24-26, 29, 35, and 37-48 stand twice rejected and are on appeal. Claims 10-12, 21-23, 27, 28, 30, 32, 34, 36, and 49-150 stand withdrawn as drawn to a nonelected invention. A complete listing of the claims involved in this appeal is included in the attached appendix.

IV. STATUS OF AMENDMENTS

No amendments have been made in response to the final Office Action mailed November 28, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A. Overview Of The Claimed Subject Matter

The anionic surfactants in shampoos can leave hair dull and dry, which makes the hair difficult to comb and style. (Specification, page 1, lines 9-15.¹) Conditioning compositions improve the undesirable characteristics of shampooed hair. (*Id.*, page 1, lines 15-18.) Quaternized ammonium compounds are one class of conditioning compounds that can be used to make hair more manageable. (*Id.*, page 1, lines 18-21.) The conditioning effect is not usually long lasting, however, because the conditioning agents can be washed off the hair easily, particular when the hair is shampooed. (*Id.*, page 3, lines 1-3.) The claimed compositions, in contrast, provide durable conditioning of hair and other keratinous fibers. (*Id.*, page 4, lines 14-20.) "Durable conditioning" means that, following at least six shampoos after treatment, treated hair still remains in a more conditioned state as compared to untreated hair.. (*Id.*, page 6, lines 9-11.)

B. Support For The Claimed Subject Matter

Claim 1 is the only independent claim on appeal. It recites:

A composition for durable conditioning of at least one keratinous fiber comprising:

- (a) at least one compound comprising at least two quaternary ammonium groups; and
 - (b) at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group,
- wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at

¹ The references to the specification in this Brief are merely intended to facilitate explaining how the application provides exemplary disclosure relating to the claimed subject matter. Those references are not necessarily exhaustive. Furthermore, those references should not be construed as limiting the claims.

least one amino group are present in an amount effective to durably condition said at least one keratinous fiber, with the proviso that if the at least one compound comprising at least one C₅ to C₇ saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted.

Support for claim 1 is found at least on page 9, lines 1-8, and on page 17, lines 4-6.

Dependent claims 2-9 and 13-15 further describe the at least one compound comprising at least two quaternary ammonium groups of claim 1(a). Support for dependent claim 2 is found on page 8, lines 1-3. Claim 3 is supported by the disclosure on page 10, lines 18-19. Support for claim 4 includes the disclosure on page 10, line 19 to page 11, line 5. Claim 5 is described in the Specification on page 11, lines 6-14. The Specification describes the different embodiments of compounds comprising at least two quaternary ammonium groups set forth in claims 6, 7, and 8 at page 11, line 17, to page 14, lines 20. In the embodiment recited in claim 9, the at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10. (*Id.*, page 14, lines 21-22.) Claim 13 recites that the compound further comprises a counterion. (*Id.*, page 15, lines 6-10.) The amount of the at least one compound comprising at least two quaternary ammonium groups can range from 0.01% to 10% by weight (claim 14), and in some embodiments it is from 0.1% to 5% by weight (claim 15). (*Id.*, page 15, lines 11-14.)

Dependent claims 16-20, 24-26, 29, 35, and 37-38 further describe the at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group of claim 1(b). For example, as recited in claim 16, the at least one amino group may be chosen from substituted and unsubstituted amino groups. (*Id.*, page 17, lines 4-6.) In the embodiment recited in claim 17, the saccharide unit is further

substituted with at least one group different from said at least one amino group. (*Id.*, page 17, lines 1-3.) Claims 18 and 19 require substitution of at least one amino group at the C1 and C2 position, respectively, of the saccharide unit. (*Id.*, page 17, lines 7-12.) The examples recited in claim 20 are described in the Specification on page 17, lines 13-21. Claims 24 and 25 further define the C₆ monosaccharides substituted with at least one amino group as hexosamines, such as aldohexosamines and ketohexosamines, while claim 26 recites certain examples and claim 35 recites the example glucosamine. (*Id.*, page 18, lines 7-12.) The amount of the at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group can range from 0.01% to 10% by weight (claim 37), and in some embodiments it is from 0.1% to 5% by weight (claim 38). (*Id.*, page 18, lines 16-19.)

Dependent claim 39 recites a composition that further comprises at least one additional sugar different from the at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group. (*Id.*, page 18, line 20 to page 19, line 1.) In claim 40, the additional sugar is chosen from monosaccharides, oligosaccharides, and polysaccharides, and if a monosaccharide is chosen then it can be a hexose (claim 41), including the hexoses recited in claim 42. (*Id.*, page 19, lines 5-14.) The amount of the at least one additional sugar can range from 0.01% to 10% by weight (claim 43), and in some embodiments it is from 0.1% to 5% by weight (claim 44). (*Id.*, page 19, lines 15-17.)

Dependent claim 45 recites that the composition can take various forms, as described in the Specification on page 19, lines 18-20. Claim 46 recites that the at least one keratinous fiber is hair. (*Id.*, page 7, lines 11-12.) Claim 47 provides that the

composition may further comprise certain suitable additives. (*Id.*, page 20, lines 3-11.)

Claim 48 recites that the composition can be a heat-activated composition. (*Id.*, page 9, line 8.)

VI. GROUND OF REJECTION

A. Claims 16, 18, 19 and 48 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite.

B. Claims 1-8, 13-16, 20, 24-26, 29, 35, and 45-47 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,494,533 to Woodin et al.

C. Claims 1-9, 13, 16, 17, 20, 24-26, 29, 35, 39, 40 and 45-48 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 4,913,743 to Brode et al.

D. Claims 14, 15, 37, 38, and 41-44 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 4,913,743 to Brode et al. ("Brode") in view of U.S. Patent No. 4,743,442 to Raaf et al.

E. Claims 1-9, 13-20, 37-40, 43, 44, 47 and 48 stand rejected on the grounds of obviousness-type double patenting as being unpatentable over claims 1-11, 13-19, 26, 31-36, 38, 39, 42, and 43 of U.S. Patent No. 6,486,105.

VII. ARGUMENT

Each claim of the present application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. § 282. The arguments set forth below are arranged under subheadings, and in accordance with 37 C.F.R. § 41.37(c)(1)(vii), these subheadings indicate the claims for which patentability is argued separately.

A. Claims 16, 18, 19 and 48 Are Definite

Claims 16, 18, 19 and 48 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. (Final Office Action, page 2.)

1. Claim 16

Regarding claim 16, the Office states that the claim “does not exclude a polysaccharide having an amino group that is substituted and claim 16 appears to be requiring substituted amino group.” (Final Office Action, page 2.) Further, the Office is of the opinion that “[c]laim 16 does not refer to a situation when the saccharide unit is not a polysaccharide.” (*Id.*)

Appellants respectfully disagree. Claim 16 must be read in the context of claim 1, from which it depends. Claim 1 provides that “if the at least one compound comprising at least one C₅ to C₇ saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted.” When the saccharide unit is a monosaccharide and substituted with only one amino group, then the amino group is obviously either an unsubstituted amino group, or a substituted amino group, since those are the only two options. But if more than one saccharide unit is present in the compound, e.g., an oligosaccharide or polysaccharide, then it is possible to have more than one amino

group. For those compounds, the amino groups can be all unsubstituted, all substituted, or some substituted and some unsubstituted. Claim 16 limits claim 1 by requiring that the at least one amino group be of the same type—substituted or unsubstituted. The proviso of claim 1 applies only if the saccharide unit is a polysaccharide.

Appellants respectfully submit that when the claims are properly construed, the proviso of claim 1 does not exclude claim 16. Accordingly, they respectfully request that the rejection be reversed.

2. Claims 18 and 19

Claims 18 and 19 stand rejected because, according to the Office, the claims require a substitution at C1 or C2, respectively, but “C1 or C2 of the saccharide can only be substituted with one amino group.” (Final Office Action, page 2.)

The language “substituted with said at least one amino group,” refers to the language of claim 1, from which claims 18 and 19 each depend. Appellants respectfully point out that although C1 and C2 may be individually substituted with only one amino group, the saccharide unit can be substituted with more than one amino group. Claim 18 specifies that position C1 is substituted with an amino group, while claim 19 specifies that the amino group substitution is at C2. Although claims 18 and claim 19 require substitution at specific positions, the claims do not exclude substitutions with amino groups at other positions.

The Office is also of the opinion that the proviso of claim 1 “excludes C5 to C7 saccharide that has substituted amino group.” (*Id.* at 3.) Appellants respectfully note, however, that the proviso of claim 1 provides only that the amino group is an

unsubstituted amino group. It does not exclude amino group substitutions on the saccharide unit, only substitution of a polysaccharide with an amino group that is itself substituted. Thus, the proviso excludes polysaccharides such as chondroitin sulfate, in which the saccharide unit is substituted with an amino group that is acylated, and heparin, in which the polysaccharide is substituted with an amino group that is sulfated. However, the claim language in no way limits either the number or the placement of the amino groups on the saccharide unit. Thus, the language of claims 18 and 19 is within the scope of claim 1 and Appellants respectfully request reversal of the rejection.

3. Claim 48

The Office rejects claim 48 as confusing because it refers to a composition as "heat activated." (Final Office Action, page 2.) Appellants again respectfully point out that a heat activated composition is "a composition which, for example, conditions the at least one keratinous fiber quantitatively better than the same composition which is not heated during or after application of the composition." (Specification, page 7, lines 5-10.) Appellants further note that the preamble of claim 48 makes clear that it is a composition claim, not a method. Accordingly, Appellants respectfully submit that claim 48 is definite and request that the rejection be reversed.

B. Woodin Does Not Anticipate The Claimed Invention

Claims 1-8, 13-16, 20, 24-26, 29, 35, and 45-47 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,494,533 to Woodin et al. ("*Woodin*"). (Final Office Action, page 4.) Appellants respectfully traverse this rejection.

Woodin teaches a composition comprising foam enhancing polymers in an aqueous solvent system. *Woodin*, abstract. The polymer can be laurdimonium hydroxyethylcellulose, polyquaternium-11, copolymers comprising saccharides and synthetic monomers, and a variety of other polymers, most of which have a quaternary amine. *Id.*, col. 3, line 24 to col. 5, line 58. All of the examples include laurdimonium hydroxyethylcellulose, usually in combination with a polyquaternium compound, such as polyquaternium-24 in Example III.

A rejection under § 102 is only proper when the claimed subject matter is identically described or disclosed in the prior art. *In re Arkley*, 455 F.2d 586, 587, 172 U.S.P.Q. 524, 526 (CCPA 1972); see also M.P.E.P. § 706.02(a) ("For anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly.").

Here, the Office relies on *Woodin* as teaching cleansing compositions comprising polyquaternium and laurdimonium hydroxyethylcellulose and states that "the laurdimonium hydroxyethylcellulose meets the limitation of an amino polysaccharide in which the amino group is not substituted." (Final Office Action, page 4.) However, claim 1 recites "(a) at least one compound comprising at least two quaternary ammonium groups; and (b) at least one C₅ to C₇ saccharide unit substituted with at least one amino group, . . . with the proviso that if the at least one compound comprising at least one C₅ to C₇ saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted." To the extent that the Office relies upon laurdimonium hydroxyethylcellulose to meet part (b) of claim 1, that reliance is misplaced. U.S. Patent No. 5,962,015 to Delrieu et al. ("*Delrieu*"), previously cited by the Office, teaches that

laurdimonium hydroxyethylcellulose is sold under the trademark CRODACEL QL, and that the CRODCEL Q series of polymers all are quaternized cellulose polymers.

Delrieu, col. 4, line 64 to col. 5, line 38. The nitrogen in a quaternized compound is substituted. Thus, since hydroxyethylcellulose is a polysaccharide, laurdimonium hydroxyethylcellulose does not meet the proviso of claim 1 that the amino group is unsubstituted. Accordingly, laurdimonium hydroxyethylcellulose is not a compound as recited in part (b) of claim 1.

The Office also points to *Woodin* as teaching “copolymers of saccharides and compatible synthetic monomers . . . which meets the limitation of a compound comprising at least one C₅ to C₇ saccharide units substituted with at least one amino group” (Final Office Action, page 4.) Although the copolymer can comprise glucosamine or galactosamine, *Woodin* does not teach combining a copolymer comprising glucosamine or galactosamine with a compound comprising at least two quaternary ammonium groups, as recited in part (a) of claim 1. Neither does *Woodin* teach the formulation of ingredients in an amount effective to durably condition at least one keratinous fiber, as claimed.

Anticipation requires that the reference identically describe the claimed subject matter without any need for picking, choosing, and combining various disclosures. *Arkley*, 455 F.2d at 587, 172 U.S.P.Q. at 526. Thus, even where a reference discloses all elements of a claim, if those elements are scattered throughout the reference’s disclosure in lists of alternatives, the reference is not anticipatory. *Id.* *Woodin* fails to teach compositions comprising both elements of claim 1 and fails to provide a composition effective to durably condition at least one keratinous fiber. The rejection

under 35 U.S.C. § 102 is therefore improper. Accordingly, Appellants respectfully ask that the rejection be reversed.

C. Brode Does Not Identically Describe The Claimed Invention

Claims 1-9, 13, 16, 17, 20, 24-26, 29, 35, 39, 40 and 45-48 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 4,913,743 to Brode et al. ("*Brode*"). (Final Office Action, page 7.)

Brode teaches compositions comprising glycosaminoglycan and cationic polymers. *Brode*, col. 2, lines 45-48. As *Brode* notes, glycosaminoglycans are polysaccharides that comprise a disaccharide repeating unit comprising hexosamine and either hexose or hexuronic acid. *Id.*, col. 3, lines 20-23. Hyaluronan and derivatives thereof are particularly preferred for use in the invention. *Id.*, col. 3, lines 44-49. *Brode* further teaches that "any cationic polymer may be used which, when combined with glycosaminoglycan, provides a modification in the properties of the glycosaminoglycan" *Id.*, col. 3, lines 61-64. Numerous examples of suitable cationic polymers are taught.

A rejection under § 102 is only proper when the reference "clearly and unequivocally discloses the claimed compound or direct those skilled in the art to the compound without any need for picking, choosing, and combining various disclosures" *In re Arkley*, 455 F.2d 586, 587, 172 U.S.P.Q. 524, 526 (CCPA 1972). Here, *Brode* broadly teaches the combination of a glycosaminoglycan and a cationic polymer. Appellants respectfully maintain, however, that those broad categories are not the claimed invention. Instead, claim 1 recites a composition that comprises "(a) at

least one compound comprising at least two quaternary ammonium groups; and (b) at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group . . . with the proviso that if the at least one C₅ to C₇ saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted."

A glycosaminoglycan is a C₆ aminopolysaccharide, but unlike the hexosamine of which it is composed, the glycan form of the amino group is normally substituted. For example, in chondroitin sulfate, keratan, and dermatan, the amino group is acetylated. In heparin, the amino group is usually sulfated. *Brode* teaches that hyaluronan, *Brode's* preferred glycosaminoglycan, contains repeating disaccharide units of D-glucuronic acid and 2-acetamido-2-desoxy-D-glucose. *Brode*, col. 3, lines 49-54. Thus, the amino group in *Brode's* preferred glycosaminoglycan is also acetylated. Glycosaminoglycans, therefore, do not necessarily comprise unsubstituted amino groups. Instead, glycosaminoglycans are a genus of compounds, many, if not most, of which comprise substituted amino groups. Appellants therefore respectfully submit that a teaching of "glycosaminoglycan" does not identically describe the compound of part (b) of claim 1 because polysaccharides in which the amino groups are substituted are excluded for the scope of the claims.

The Office notes that the specification does not explicitly "define what a polysaccharide having substitution on the amino group is." (Final Office Action, page 9.) It is the Office's position that "amide or acetylated amines are what they are, acetylated amines. A substituent on amine is generally alkyl groups and acetyl group is not alkyl." (*Id.*) It concludes "[t]herefore, the aminoglycans do not have substitution on the amine of the hexosamine." (*Id.*)

Respectfully, this is contrary to the plain meaning of “unsubstituted.” Claim 1 requires that, when the saccharide unit is a polysaccharide, the amino groups are unsubstituted. No reasonable construction of that language would equate acetamido (as found in hyaluronan and many other glycosaminoglycans) with an unsubstituted amino group. Unsubstituted means what it says— the amino group is unsubstituted.

All of the examples in *Brode* involve a glycosaminoglycan in which the amino group is substituted. Further, *Brode* teaches that glycosaminoglycans can be substituted, and lists examples, including the preferred embodiment, of glycosaminoglycans with substituted amino groups. *Brode*, therefore, fails to identically describe all the elements of claim 1 and for at least this reason fails to anticipate the claims. Accordingly, Appellants respectfully request that this rejection be reversed.

D. Brode In View of Raaf Does Not Render The Claimed Invention Obvious

Claims 14, 15, 37, 38, and 41-44 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 4,913,743 to Brode et al. (“*Brode*”) in view of U.S. Patent No. 4,743,442 to Raaf et al (“*Raaf*”). (Final Office Action, page 9.)

The Office reiterates its position that *Brode* teaches compositions comprising glycosaminoglycans and cationic polymer and that these compounds are within the scope of the claims. (*Id.*) It acknowledges that *Brode* does not teach monosaccharides such as glucose in the composition, as recited in claims 41-44. (*Id.*) *Raaf* is relied upon as teaching a composition comprising glucose and other components for skin care. (*Id.*) According to the Office, both compositions are used “for the same general purpose.” (*Id.* at 10.) Relying on *In re Kerkhoven*, 626 F.2d 846, 850, 205 U.S.P.Q 1069, 1072

(C.C.P.A. 1980), the Office asserts that the ordinary artisan would therefore have been motivated to combine the compositions to produce a third composition that would also be used for the purpose of skin care. (*Id.*) Appellants respectfully traverse this rejection.

Appellants traverse the Office's position. "The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness." M.P.E.P. § 2142. The *prima facie* case of obviousness must meet several essential criteria, including that the prior art references must teach or suggest all of the claim limitations, and that there is some reason, suggestion, or motivation in the prior art to lead one of ordinary skill in the art to combine the teachings of the references in the manner proposed by the Office. M.P.E.P. § 2143. That suggestion or motivation must be found in the prior art, not in the Applicant's disclosure. *Id.* Further, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." M.P.E.P. § 2143.01 (citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)).

As discussed *supra*, *Brode* does not teach glycosaminoglycans in which the amino groups are unsubstituted. *Brode*, therefore, does not teach all of the elements recited in claim 1. The teachings of *Brode* also do not provide a suggestion that the ordinary artisan should select only glycosaminoglycans in which the amino groups are unsubstituted. *Raaf*, the teachings of which relate to the inclusion of mineral salts in skin care compositions, also does not teach or suggest that the ordinary artisan should select only a glycosaminoglycan in which the amino groups are unsubstituted. Thus, *Raff* does nothing to remedy the defect in the teachings of *Brode*.

Because the combination of *Brode* and *Raff* does not teach or suggest all elements recited in claim 1, those references also do not teach each and every element of dependent claims 14, 15, 37, 38, and 41-44. For at least this reason, the Office has failed to establish a *prima facie* case regarding the teachings of *Brode* and *Raff*. Appellants therefore respectfully submit that the rejection of the claims as obvious in view of their combined teachings is in error and should be reversed.

E. Obviousness-Type Double Patenting

Claims 1-9, 13-20, 37-40, 43, 44, 47 and 48 stand rejected on the grounds of obviousness-type double patenting as being unpatentable over claims 1-11, 13-19, 26, 31-36, 38, 39, 42, and 43 of U.S. Patent No. 6,486,105 ("the '105 patent"). (Final Office Action, page 11.) According to the Office, the conflicting claims are not patentably distinct because C₅ saccharides are recited in both claims sets and the compound comprising at least two quaternary groups is the same. *Id.* at 11-12.

Appellants traverse this rejection at least because there is no requirement that the at least one sugar recited in the issued claims contain an amino group, as recited in claim 1. Nevertheless, solely in order to expedite prosecution, Appellants provide a terminal disclaimer with this Appeal Brief. Accordingly, the rejection is moot.

VIII. CONCLUSION

For the reasons given above, pending claims 1-9, 13-20, 24-26, 29, 35, and 37-48 are allowable and reversal of the Office's rejections is respectfully requested.

Appellants respectfully submit the claims are definite, and that the Office has failed to establish that the claims are either anticipated by, or *prima facie* obvious over, the cited references.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Application No.: 09/820,858
Attorney Docket No.: 05725.0844

IX. Claims Appendix to Appeal Brief Under Rule 41.37(c)(1)(viii)

1. A composition for durable conditioning of at least one keratinous fiber comprising:
 - (a) at least one compound comprising at least two quaternary ammonium groups;
and
 - (b) at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group,wherein said at least one compound comprising at least two quaternary ammonium groups and at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group are present in an amount effective to durably condition said at least one keratinous fiber,
with the proviso that if the at least one compound comprising at least one C₅ to C₇ saccharide unit is chosen from polysaccharides, then the amino groups are unsubstituted.
2. A composition according to claim 1, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from ammonium groups which are quaternized and amine groups which are capable of being quaternized.
3. A composition according to claim 2, wherein said amine groups which are capable of being quaternized are chosen from primary amine groups, secondary amine groups, and tertiary amine groups.
4. A composition according to claim 1, wherein said at least two quaternary ammonium groups, which may be identical or different, are each chosen from substituent

ammonium groups which are quaternized, substituent amino groups capable of being quaternized, ammonium groups which are quaternized which form part of the skeleton of said at least one compound and amino groups capable of being quaternized which form part of the skeleton of said at least one compound.

5. A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer unit comprising at least two quaternary ammonium groups as defined below and optionally (ii) at least one additional monomer unit different from said at least one monomer (i); and

- polymers comprising at least two quaternary ammonium groups derived from (i) at least one monomer comprising at least one quaternary ammonium group as defined herein and optionally (ii) at least one additional monomer unit.

6. A composition according to claim 5, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer;

- cationic diallyl quaternary ammonium polymers comprising at least two quaternary ammonium groups;

- polysaccharide polymers comprising at least two quaternary ammonium groups;

and

- silicone polymers comprising at least two quaternary ammonium groups.

7. A composition according to claim 6, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from:

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl monomer substituted with at least one group chosen from dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salts, trialkyl acryloxyalkyl ammonium salts and diallyl quaternary ammonium salts;

- polymers comprising at least two quaternary ammonium groups derived from at least one vinyl quaternary ammonium monomer comprising at least one cyclic cationic nitrogen-containing ring;

- copolymers comprising at least two quaternary ammonium groups derived from (i) at least one vinyl monomer comprising at least one quaternary ammonium group and (ii) at least one additional monomer chosen from acrylamide, methacrylamide, alkyl acrylamides, dialkyl acrylamides, alkyl methacrylamides, dialkyl methacrylamides, alkyl acrylate, alkyl methacrylate, vinyl caprolactone, vinyl pyrrolidone, vinyl esters, vinyl alcohol, maleic anhydride, propylene glycol, and ethylene glycol;

- cationic cellulose comprising at least two quaternary ammonium groups;

- cationic starches comprising at least two quaternary ammonium groups;

- cationic guar gums comprising at least two quaternary ammonium groups; and

- cellulose ethers comprising at least two quaternary ammonium groups.

8. A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is chosen from polyquaternium-16;

polyquaternium-11; quaternized poly(vinylamine); quaternized poly-4-vinyl pyridine; quaternized poly(ethyleneimine); polyquaternium-6; polyquaternium-7; polyquaternium-22; polyquaternium-39; polyquaternium-10; polyquaternium-24; quaternized starch; and amodimethicone.

9. A composition according to claim 7, wherein said at least one compound comprising at least two quaternary ammonium groups is polyquaternium-10.

10-13. (withdrawn)

13. A composition according to claim 1, Wherein said at least one compound comprising at least two quaternary ammonium groups further comprises at least one counterion.

14. A composition according to claim 1, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

15. A composition according to claim 14, wherein said at least one compound comprising at least two quaternary ammonium groups is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

16. A composition according to claim 1, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

17. A composition according to claim 1, wherein said at least one C₅ to C₇ saccharide unit is further substituted with at least one group different from said at least one amino group.

18. A composition according to claim 1, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

19. A composition according to claim 1, wherein said at least one C₅ to C₇ saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

20. A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from C₅ monosaccharides substituted with at least one amino group, C₆ monosaccharides substituted with at least one amino group, C₇ monosaccharides substituted with at least one amino group, polymers comprising at least one C₅ monosaccharide substituted with at least one amino group, polymers comprising at least one C₆ monosaccharide substituted with at least one amino group, polymers comprising at least one C₇ monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

21-23. (withdrawn)

24. A composition according to claim 20, wherein said C₆ monosaccharides substituted with at least one amino group are chosen from hexosamines.

25. A composition according to claim 24, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

26. A composition according to claim 25, wherein hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, galactosamine, and talosamine.

27-28. (withdrawn)

29. A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from oligosaccharides derived from said at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

30. (withdrawn)

31. (cancelled)

32. (withdrawn)

33. (cancelled)

34. (withdrawn).

35. A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is chosen from glucosamine.

36. (withdrawn)

37. A composition according to claim 1, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

38. A composition according to claim 37, wherein said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

39. A composition according to claim 1, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group.

40. A composition according to claim 39, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

41. A composition according to claim 40, wherein said monosaccharides are chosen from hexoses.

42. A composition according to claim 41, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

43. A composition according to claim 39, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

44. A composition according to claim 43, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

45. A composition according to claim 1, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

46. A composition according to claim 1, wherein said at least one keratinous fiber is hair.

47. A composition according to claim 1, further comprising at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

48. A composition according to claim 1, wherein said composition is heat-activated.

49-150 (withdrawn)

151-152. (cancelled)

X. Evidence Appendix to Appeal Brief Under Rule 41.37(c)(1)(ix)

No evidence submitted pursuant to §§ 1.130-1.132 is relied upon by Appellants in this appeal. Appellants rely upon U.S. Patent No. 5,962,015 to Delrieu et al., cited and entered by the Office in the February 17, 2006, Office Action. Appellants also enclose and reply upon a Terminal Disclaimer to obviate the Obviousness-type Double Patenting Rejection over U.S. Patent No. 6,486,105.

XI. Related Proceedings Appendix to Appeal Brief Under Rule 41.37(c)(1)(x)

No decisions in related proceedings were identified in this Appeal Brief.